AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of suturing a portion of biological tissue using a suturing device having a longitudinal axis, a needle attached to a suture, a needle driver, and at least one needle holder, the method comprising:

(a) positioning a distal needle holder in a distal position relative to the portion of biological tissue, the distal needle holder adapted to releasably hold the needle, and positioning a distal end of the needle driver in a proximal position relative to the portion of biological tissue;

(b) positioning the needle in either the proximal position or the distal position;

(c) moving the needle driver longitudinally in a first direction along a path substantially parallel to the longitudinal axis such that the needle and suture pass through the portion of biological tissue, thereby forming a suture incision through which the suture passes; and

(d) repeating (a) - (c) to form a series of stitches;

wherein the needle is positioned in a proximal position relative to the portion of biological tissue by releasably holding the needle in a proximal needle holder positioned in a proximal position relative to the portion of biological tissue; and

wherein the distal needle holder is positioned in the distal position relative to the portion of biological tissue by placing the proximal needle holder in the distal position.

2. (Original) The method of Claim 1 further comprising moving the needle driver longitudinally in a second direction substantially opposite to the first direction along the path substantially parallel to the longitudinal axis.

3. (Canceled)

4. (Currently Amended) The method of Claim 1 ~~3~~, wherein moving the needle driver longitudinally in the first direction advances the needle from the proximal needle holder to the distal needle holder.

5. (Canceled)

6. (Currently Amended) A method of suturing a portion of biological tissue using a suturing device having a longitudinal axis, a needle attached to a suture, a needle driver, and at least one needle holder, the method comprising:

(a) positioning a distal needle holder in a distal position relative to the portion of biological tissue, the distal needle holder adapted to releasably hold the needle, and positioning a distal end of the needle driver in a proximal position relative to the portion of biological tissue;

(b) positioning the needle in either the proximal position or the distal position;

(c) moving the needle driver longitudinally in a first direction along a path substantially parallel to the longitudinal axis such that the needle and suture pass through the portion of biological tissue, thereby forming a suture incision through which the suture passes; and

(d) repeating (a) - (c) to form a series of stitches;

wherein the needle is positioned in a proximal position relative to the portion of biological tissue by releasably holding the needle in a proximal needle holder positioned in a proximal position relative to the portion of biological tissue; and

~~The method of Claim 3,~~ wherein the needle is positioned in the proximal position relative to the portion of biological tissue by releasably holding the needle with the distal needle holder positioned in the distal position relative to the portion of biological tissue and translating the distal needle holder to the proximal position.

7. (Currently Amended) A method of suturing a portion of biological tissue using a suturing device having a longitudinal axis, a needle attached to a suture, a needle driver, and at least one needle holder, the method comprising:

(a) positioning a distal needle holder in a distal position relative to the portion of biological tissue, the distal needle holder adapted to releasably hold the needle, and positioning a distal end of the needle driver in a proximal position relative to the portion of biological tissue;

(b) positioning the needle in either the proximal position or the distal position;

(c) moving the needle driver longitudinally in a first direction along a path substantially parallel to the longitudinal axis such that the needle and suture pass through the portion of biological tissue, thereby forming a suture incision through which the suture passes; and

(d) repeating (a) - (c) to form a series of stitches;

wherein the needle is positioned in a proximal position relative to the portion of biological tissue by releasably holding the needle in a proximal needle holder positioned in a proximal position relative to the portion of biological tissue; and

~~The method of Claim 3,~~ wherein the needle is positioned in the proximal position relative to the portion of biological tissue by translating the proximal needle holder distally along a path substantially parallel to the longitudinal axis to engage the needle being releasably held by the distal needle holder, releasably holding the needle with the proximal needle driver, releasing the needle from the distal needle holder, and translating the proximal needle holder and needle proximally along a path substantially parallel to the longitudinal axis to the proximal position.

8. (Original) The method of Claim 1, wherein the needle is positioned in a proximal position relative to the portion of biological tissue by releasably holding the needle near a distal end of the needle driver.

9. (Original) The method of Claim 8, wherein moving the needle driver longitudinally in the first direction results in the needle being releasably held by the distal needle holder.

10. (Original) The method of Claim 9, wherein the method further comprises releasing the needle from the needle driver after the needle is releasably held by the distal needle holder.

11. (Currently Amended) A method of suturing a portion of biological tissue using a suturing device having a longitudinal axis, a needle attached to a suture, a needle driver, and at least one needle holder, the method comprising:

(a) positioning a distal needle holder in a distal position relative to the portion of biological tissue, the distal needle holder adapted to releasably hold the needle, and positioning a distal end of the needle driver in a proximal position relative to the portion of biological tissue;

(b) positioning the needle in either the proximal position or the distal position;

(c) moving the needle driver longitudinally in a first direction along a path substantially parallel to the longitudinal axis such that the needle and suture pass through the portion of biological tissue, thereby forming a suture incision through which the suture passes; and

(d) repeating (a) - (c) to form a series of stitches;

wherein the needle is positioned in a proximal position relative to the portion of biological tissue by releasably holding the needle near a distal end of the needle driver;

wherein moving the needle driver longitudinally in the first direction results in the needle being releasably held by the distal needle holder;

wherein the method further comprises releasing the needle from the needle driver after the needle is releasably held by the distal needle holder; and

~~The method of Claim 10,~~ wherein the needle is positioned in the proximal position relative to the portion of biological tissue by extending the needle driver longitudinally, releasably holding the needle near the distal end of the needle driver, releasing the needle from the distal needle holder, and retracting the needle driver and the needle to the proximal position.

bl Cont.

12. (Original) The method of Claim 2, wherein the needle is positioned in a distal position relative to the portion of biological tissue by releasably holding the needle with the distal needle holder.

13. (Original) The method of Claim 12, wherein moving the needle driver longitudinally in the first direction advances the needle from the distal position to the proximal position.

14. (Currently Amended) A method of suturing a portion of biological tissue using a suturing device having a longitudinal axis, a needle attached to a suture, a needle driver, and at least one needle holder, the method comprising:

(a) positioning a distal needle holder in a distal position relative to the portion of biological tissue, the distal needle holder adapted to releasably hold the needle, and positioning a distal end of the needle driver in a proximal position relative to the portion of biological tissue;

(b) positioning the needle in either the proximal position or the distal position;

(c) moving the needle driver longitudinally in a first direction along a path substantially parallel to the longitudinal axis such that the needle and suture pass through the portion of biological tissue, thereby forming a suture incision through which the suture passes; and

(d) repeating (a) - (c) to form a series of stitches;

further comprising moving the needle driver longitudinally in a second direction substantially opposite to the first direction along the path substantially parallel to the longitudinal axis;

wherein the needle is positioned in a distal position relative to the portion of biological tissue by releasably holding the needle with the distal needle holder;

wherein moving the needle driver longitudinally in the first direction advances the needle from the distal position to the proximal position; and

~~The method of Claim 13,~~ wherein the needle is releasably held by the needle driver after moving the needle driver longitudinally in the second direction.

15. (Original) The method of Claim 14, wherein the needle is positioned in the distal position relative to the portion of biological tissue by extending the needle driver longitudinally, releasably holding the needle with the distal needle holder, releasing the needle from the needle driver, and retracting the needle driver to the proximal position.

B1 cont.

16. (Original) A method for suturing a portion of biological tissue, the method comprising:

releasably holding a needle with a first needle holder, the needle being attached to a suture;

placing the first needle holder in a proximal position relative to a portion of biological tissue and placing a second needle holder in a distal position relative to the portion of biological tissue, so that the portion of biological tissue is between the first needle holder and the second needle holder;

applying a force to the needle by engaging the needle with a needle driver and extending the needle driver in the distal direction, thereby transferring the needle from the first needle holder, through the portion of biological tissue between the first and second needle holders, to the second needle holder;

disengaging the needle driver from the needle and retracting the needle driver in the proximal direction away from the needle and the first and second needle holders;

laterally withdrawing the first and second needle holders from the portion of biological tissue;

exchanging positions of the first and second needle holders so that the first needle holder is in a distal position relative to the second needle holder and the needle.

17. (Canceled)

18. (Currently Amended) ~~The suturing device of Claim 17 further comprising~~ A suturing device for suturing a portion of biological tissue, the device comprising:

a needle attached to a suture;

a first needle holder that releasably holds the needle;

a needle driver adapted to be advanced and retracted substantially parallel to a longitudinal axis of the suturing device; and

a second needle holder adapted to releasably hold the needle, wherein the first and second needle holders are coupled to be alternately positionable in a proximal position or a distal position relative to the portion of biological tissue.

19. (Original) The suturing device of Claim 18 further comprising:

an elongated body;

a first arm with a distal end and a proximal end, the first needle holder being connected near the distal end of the first arm;

a second arm with a distal end and a proximal end, the second needle holder being connected near the distal end of the second arm;

a guide pin fixed to the elongated body, the guide pin being slidably connected to the first arm and slidably connected to the second arm;

a cross piece rotatably attached to the elongated body, rotatably attached near the proximal end of the first arm and near the proximal end of the second arm, and rotatable between a first orientation and a second orientation, the first orientation having the first needle holder in a proximal position relative to the second needle holder and the second orientation having the first needle holder in a distal position relative to the second needle holder, whereby a rotation of the cross piece from the first orientation to the second orientation exchanges the positions of the first and second needle holders.

20. (Currently Amended) ~~The suturing device of Claim 17,~~ A suturing device for suturing a portion of biological tissue, the device comprising:

a needle attached to a suture;

a first needle holder that releasably holds the needle; and

a needle driver adapted to be advanced and retracted substantially parallel to a longitudinal axis of the suturing device;

wherein the needle driver is adapted to releasably hold the needle.

21. (Canceled)

22. (Original) A suturing device for suturing a portion of biological tissue, the device comprising:

a needle attached to a suture;

a needle holder adapted to releasably hold the needle, the needle holder positioned distally relative to the portion of biological tissue;

a needle driver adapted to releasably hold the needle and to advance the needle along a path substantially parallel to the longitudinal axis of the suturing device.

23. (Canceled)

24. (Canceled)

25. (Canceled)

26. (Canceled)

27. (Canceled)

28. (Currently Amended) A medical instrument having a longitudinal axis, the medical instrument comprising:

a proximal portion comprising a first actuating member;

an elongate distal portion comprising a mechanism that mechanically interacts with body tissue; and

an actuator assembly responsive to the first actuating member for driving the mechanism, the actuator assembly mechanically coupling the first actuating member with the mechanism such that the mechanism can be rotated about the longitudinal axis of the medical instrument without rotating the proximal portion;

wherein the proximal portion comprises a handle assembly having a housing, and the actuator assembly comprises a rotator, wherein rotation of the rotator rotates the mechanism relative to the proximal portion; and

~~The medical instrument of Claim 27,~~ wherein the actuator assembly further comprises:

a first cylinder;

an actuator coupled to drive the first cylinder linearly in response to movement of the first actuating member;

a second cylinder rotatably coupled to the first cylinder; and

a connecting member which couples the second cylinder to the mechanism, whereby actuation of the actuator provides linear actuation to the mechanism.

29. (Previously Presented) The medical instrument of Claim 28, wherein the first cylinder is slidably mounted on the housing, and wherein the second cylinder is slidably mounted on the rotator.

30. (Previously Presented) The medical instrument of Claim 28, wherein the connecting member comprises an arm actuator rod.

31. (Currently Amended) A medical instrument having a longitudinal axis, the medical instrument comprising:

a proximal portion comprising a first actuating member;

an elongate distal portion comprising a mechanism that mechanically interacts with body tissue; and

an actuator assembly responsive to the first actuating member for driving the mechanism, the actuator assembly mechanically coupling the first actuating member with the mechanism such that the mechanism can be rotated about the longitudinal axis of the medical instrument without rotating the proximal portion;

wherein the proximal portion comprises a handle assembly having a housing, and the actuator assembly comprises a rotator, wherein rotation of the rotator rotates the mechanism relative to the proximal portion; and

~~The medical instrument of Claim 27,~~wherein the actuator assembly further comprises:

a first outer cylinder;

a first inner cylinder positioned within, and coaxially to, the first outer cylinder;

a first actuator coupled to drive the first inner cylinder linearly in response to movement of the first actuating member;

a second actuator coupled to drive the first outer cylinder linearly in response to movement of the first actuating member;

a second outer cylinder rotatably coupled to the first outer cylinder;

a second inner cylinder positioned within, and coaxially to, the second outer cylinder, and rotatably coupled to the first inner cylinder;

a first connecting member which couples the second outer cylinder to the mechanism; and

a second connecting member which couples the second inner cylinder to the mechanism,

whereby actuation of the first actuator provides linear actuation to the mechanism, and actuation of the second actuator provides linear actuation to the mechanism.

32. (Previously Presented) The medical instrument of Claim 31, wherein the first connecting member comprises an arm actuator rod.

33. (Previously Presented) The medical instrument of Claim 31, wherein the second connecting member comprises an arm actuator rod.

34. (Previously Presented) The medical instrument of Claim 31, wherein the first outer cylinder is slidably mounted on the housing, the first inner cylinder is slidably mounted in the first outer cylinder, the second outer cylinder is slidably mounted on the rotator, and the second inner cylinder is slidably mounted in the second outer cylinder.

35. (Previously Presented) The medical instrument of Claim 31, wherein:

the first actuating member comprises a thumbwheel rotatably coupled to the housing about an axis;

the first actuator comprises a first linear actuator rod coupled to a first off-axis position of the thumbwheel;

the second actuator comprises a second linear actuator rod coupled to a second off-axis position of the thumbwheel, the second off-axis position being on the opposite side of the axis from the first off-axis position, whereby rotation of the thumbwheel about the axis actuates the first and second actuators in substantially opposite directions.

36. (Previously Presented) The medical instrument of Claim 31, wherein the first outer cylinder comprises a first outer slot, and the first inner cylinder comprises a first inner tab slidably engaged with the first outer slot.

37. (Previously Presented) The medical instrument of Claim 31, wherein the housing comprises a housing slot, and the first outer cylinder comprises a first outer tab slidably engaged with the housing slot.

38. (Previously Presented) The medical instrument of Claim 31, wherein the second outer cylinder comprises a second outer slot, and the second inner cylinder comprises a second inner tab slidably engaged with the second outer slot.

39. (Previously Presented) The medical instrument of Claim 31, wherein the rotator comprises a rotator slot, and the second outer cylinder comprises a second outer tab slidably engaged with the rotator slot.

40. (Previously Presented) The medical instrument of Claim 31, wherein the first inner cylinder comprises a first coaxial hole and the second inner cylinder comprises a second coaxial hole, the second coaxial hole being substantially colinear with the first coaxial hole.

bl/ Cont.

41. (Previously Presented) The medical instrument of Claim 40, wherein the actuator assembly further comprises a third linear actuator rod which couples a second actuating member to the mechanism, the third linear actuator rod extending through the first coaxial hole and the second coaxial hole.

42. (Previously Presented) The medical instrument of Claim 41, wherein the second actuating member comprises:

a trigger pivot pin fixedly coupled to the housing;

a trigger rotatably coupled to the trigger pivot pin and coupled to the third linear actuator rod; and

a trigger spring with a first end coupled to the trigger and a second end coupled to the housing, whereby rotation of the trigger about the trigger pivot pin provides linear actuation to the mechanism.